UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,537	08/18/2005	Aine M. McKillop	U0003/7016	8329

22832 7590 12/11/2008

K&L Gates LLP
STATE STREET FINANCIAL CENTER
One Lincoln Street
BOSTON, MA 02111-2950

EXAMINER	
EWOLDT, GERALD R	

ART UNIT	PAPER NUMBER
1644	

MAIL DATE	DELIVERY MODE
12/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/528,537	MCKILLOP ET AL.	
	Examiner	Art Unit	
	G. R. Ewoldt, Ph.D.	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-6,11-15 and 20-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-6,11-15 and 20-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment and remarks filed 9/16/08 are acknowledged.

Claims 2-6, 11-15, 20, 21 and newly added Claims 22-28 are under examination.

2. In view of Applicant's amendment the previous rejection under the second paragraph of 35 U.S.C. 112 has been withdrawn.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 2-6, 11-15, 20, 21 and newly added Claims 20-28 stand/are rejected under 35 U.S.C. 102(b) as being clearly anticipated by McKillop et al. (August 2001, IDS).

As set forth previously, McKillop et al. teaches the measuring of the concentration of glycated insulin in a biological sample in which the glucose levels are within the normal range (which is recited in Claim 5 as being less than 11.1 mmol/l) (see particularly Materials and Methods, *Biochemical analyses* and Figure 1). Note that the reference further teaches the determining of whether or not the glycated insulin concentration in the sample with a normal glucose level (labeled "Lean") is at least 20 pmol/l (see Figure 1, top right figure wherein the glycated insulin level is determined in ng/ml which can be converted to pmol/ml). Also note that the method is performed using the RIA recited in Claims 20 and 21. Finally note that the additional "wherein clauses" of the claims comprise no actual method steps but rather indicate merely what the results of the method steps can be used to determine; accordingly, they need not be taught by the anticipatory reference.

Applicant's arguments, filed 9/16/08, have been fully considered but are not found persuasive. Applicant reviews the reference and argues that the claimed method is not disclosed therein.

In reviewing method claims for novelty the methods are reviewed in view of the steps that are recited. In the instant case the steps comprise providing a biological sample wherein the glucose level is within various normal ranges, and measuring the glycated insulin concentration in said sample. Said method

is taught by the reference in Figure 1 ("Lean") wherein the glucose concentration is less than 11.1 mM, less than 8 mM, and less than 7.0 mM (the concentration appears to be ~2.0 mM in the first graph) and glycated insulin levels are measured (in the third graph). As set forth previously, the "wherein" clauses of the claims do not comprise actual limitations and they do not separate the claimed method from that taught by the prior art.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims -6, 11-15, 20, 21 and newly added Claims 20-28 stand/are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, it is unlikely that the claimed method could be used to effectively diagnose early diabetes or a predisposition to diabetes.

As set forth previously, A review of the specification reveals no data to support the underlying assumption of the claimed method that high concentrations of glycated insulin can be found in pre or early diabetics who still maintain normal glucose levels. The specification simply speculates that because some of the normal control subjects in Example 2 displayed high glycated insulin levels that those subjects would go on to develop diabetes. Absent *any* data or evidence to support this speculation said speculation alone cannot meet the enablement requirement under first paragraph of 35 U.S.C. 112.

A review of art, including Applicants' own work, e.g., McKillop et al. (2001, IDS) reveals that while high levels of glycated insulin are found in diabetics, there is no evidence to support allegations that said high level of glycated insulin would be found in subjects before the onset of disease. Indeed, see Figure 4A wherein glucose and glycated insulin levels rise at the same time. Also see the Inventors' later work, McKillop et al. (2006) wherein it is shown that glycated insulin levels in a subject are raised in response to a meal and vary drastically over the course of just minutes (see particularly Figure 1).

Applicant's arguments, filed 9/16/08, have been fully considered but are not found persuasive. Applicant cites Figure 1 of the instant application arguing that, because it shows that glycated insulin levels are highest in cohorts with the shortest duration of disease, the claimed method is enabled.

A review of Example 1, for which Figure 1 displays results, reveals that the experiment was performed on type 2 diabetic patients (page 11). Accordingly, the results are silent as regards type 1 or gestational diabetic patients. But more importantly, the results are silent as regards the early diagnosis of, predicting of, or predisposition to, any type of diabetes. Neither good, moderate, nor poor control of disease, nor duration of disease, tell the skilled artisan anything regarding the method of the instant claims. And it is further noted that Applicant has not addressed the issues set forth above in the rejection.

7. No claim is allowed.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. No claim is allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Gerald Ewoldt whose telephone number is (571) 272-0843. The examiner can normally be reached Monday through Thursday from 7:30 am to 5:30 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen O'Hara, Ph.D. can be reached on (571) 272-0878.

11. **Please Note:** Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR

or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/G.R. Ewoldt/
G.R. Ewoldt, Ph.D.
Primary Examiner
Technology Center 1600